

Amendments to the Specification:

Please replace Table 2A on page 27 with the following replacement Table 2A:

--Table 2A Partitioning Domain Mutations in Various DNA Polymerases

Enzyme	Domain (bp)	Domain sequence	Predicted Mutations for Reducing DNA Polymerase Activity*	Preferred mutation
Pfu	384-389	S Y T G G F <u>SEQ ID NO:</u> <u>12</u>	Y385, G387, G388 (Y385N, Y385L, Y385H, Y385Q, Y385S; G387S, G387P; G388A, G388P)	G387P
Tgo	383-388	S Y A G G Y <u>SEQ ID NO:</u> <u>13</u>	Y384, G386, G387 (Y384N, Y384L, Y384H, Y384Q, Y384S; G386S, G386P; G387A, G387P)	G386P
KOD	383-388	S Y E G G Y <u>SEQ ID NO:</u> <u>14</u>	Y384, G386, G387 (Y384N, Y384L, Y384H, Y384Q, Y384S; G386S, G386P; G387A, G387P)	G386P
Vent	386-391	T Y L G G Y <u>SEQ ID NO:</u> <u>15</u>	Y387, G389, G390 (Y387N, Y387L, Y387H, Y387Q, Y387S; G389S, G389P; G390A, G390P)	G389P
DeepVent	384-389	S Y A G G Y <u>SEQ ID NO:</u> <u>16</u>	Y385, G387, G388 (Y385N, Y385L, Y385H, Y385Q, Y385S; G387S, G387P; G388A, G388P)	G387P

			G388P)	
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Please replace Table 2B on page 28 with the following replacement Table 2B:

--Table 2B Polymerase Domain Mutations in Various DNA Polymerases

Enzyme	Domain (bp)	Domain sequence	<u>SEQ ID NO</u>	Predicted Mutations for Reducing DNA Polymerase Activity#
Pfu	DXXSLYP	DFRALYP	<u>17</u>	D405 (D405E)
Tgo	405-411	DFRSLYP	<u>18</u>	D404 (D404E)
KOD	404-410	DFRSLYP	<u>19</u>	D404 (D404E)
Vent	404-410	DFRSLYP	<u>19</u>	D404 (D404E)
Deep	407-413	DFRSLYP	<u>19</u>	D407 (D404E)
Vent	405-411	DFRSLYP	<u>19</u>	D405 (D404E)
Pfu	YXDTDS	YIDTDG	<u>20</u>	T542, D543 (T542P; D543G)
Tgo	539-544	YADTDG	<u>21</u>	T541, D542 (T541P; D542G)
KOD	538-543	YSDTDG	<u>22</u>	T541, D542 (T541P; D542G)
Vent	538-543	YADTDG	<u>23</u>	T541, D542 (T541P; D542G)
Deep	541-546	YADTDG	<u>22</u>	T544, D545 (T544P; D545G)
Vent	539-544	YIDTDG	<u>21</u>	T542, D543 (T542P; D543G)
Pfu	KXY	KRY		K593 (K593T)
Tgo	593-595	KKY		K592 (K592T)
KOD	592-594	KKY		K592 (K592T)
Vent	592-594	KKY		K592 (K592T)
Deep	595-597	KRY		K595 (K595T)
Vent	593-595	KKY		K593 (K593T)

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